



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,985	08/26/2003	Adam M. Demicco	CE11376JAN	6731
34952	7590	01/11/2005	EXAMINER	
FLEIT, KAIN, GIBBONS, GUTMAN, BONGINI & BIANCO P.L. 551 N.W. 77TH STREET, SUITE 111 BOCA RATON, FL 33487			CAO, HUEDUNG X	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/649,985

Applicant(s)

DEMICCO ET AL.

Examiner

Huedung X Cao

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 11-12, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by GRIFFIN et al. (5,898,908).

As per claim 1, Griffin teaches the claimed “detachable antenna module” (Griffin, vehicle cradle 14, figure 1) “for attachment to a wireless communication device that has a built-in antenna” (Griffin, the portable cellular phone 12, figure 1) the detachable antenna module comprising: “at least one attachment feature on the antenna module for removably attaching the antenna module to the communication device such that the antenna module and the communication device form a single mobile unit when attached” (Griffin, Vehicle Cradle Interface 16, column 4, lines 38-44); “an external antenna” (Griffin, external antenna 66, column 5, lines 65-66); and “an activation control mechanism for selectively electrically coupling the external antenna to the communication device when the antenna module is attached to the communication device” (Griffin, the antenna

Art Unit: 2821

switch 42, column 6, lines 47-49), "so as to selectively route at least one of signal transmission and signal reception through one of the built-in antenna of the communication device and the external antenna of the antenna module when the antenna module is attached to the communication device" (Griffin, column 6, lines 41-56).

Claim 2 adds into claim 1 "a connector coupled to the external antenna, wherein the connector selectively electrically couples the external antenna to a corresponding connector of the communication device based on the state of the activation control mechanism" (Griffin, column 5, line 65 to column 6, line 3; column 6, lines 47-52).

As per claim 11, Griffin teaches the claimed "a built-in antenna" (Griffin, the portable cellular phone 12, figure 1); and "a detachable antenna module" (Griffin, vehicle cradle 14, figure 1) including "an external antenna" (Griffin, external antenna 66, column 5, lines 65-66), "an activation control mechanism, and at least one attachment feature for removably attaching the antenna module to the communication device such that the antenna module and the communication device from a single mobile unit when attached" (Griffin, Vehicle Cradle Interface 16, column 4, lines 38-44), wherein at least one of signal transmission and signal reception is routed through the built-in antenna when the antenna module is not attached to the communication device, and the activation control mechanism selectively electrically couples the external antenna to the communication device when the antenna module is attached to the communication device (Griffin, the antenna switch 42, column 6, lines 47-49), "so

Art Unit: 2821

as to selectively route at least one of signal transmission and signal reception through one of the built-in antenna and the external antenna of the antenna module when the antenna module is attached to the communication device” (Griffin, column 5, line 65 to column 6, line 3; column 6, lines 47-52).

Claim 12 adds into claim 11 “an external connector interface; and a connector (Griffin, column 5, line 65 to column 6, line 3), wherein the antenna module further includes an external connector that interfaces with the external connector interface when the antenna module is attached to the communication device, the external connector being coupled to the external antenna, and the external connector selectively electrically couples the external antenna to the connector based on the state of the activation control mechanism” (Griffin, column 6, lines 47-52).

Claim 18 adds into claim 11 “the communication device is a wireless phone” which Griffin teaches in the portable cellular phone 12 (column 4, lines 35).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claims 1-2, and 11-12 above, and further in view of MA et al. (US 2003/0100262 A1).

As per claim 3, Griffin discloses substantially the claim invention as noted above except for the activation control mechanism is an activation button, and pressing the activation button alternately makes and breaks electrical contact between the connector of the antenna module and the corresponding connector of the communication device so as to alternately electrically couple and electrically uncouple the external antenna and the communication device.

Ma discloses the connector of the antenna module is activation control mechanism is an activation button, and pressing the activation button alternately makes and breaks electrical contact between the connector of the antenna module and the corresponding connector of the communication device so as to alternately electrically couple and electrically uncouple the external antenna and the communication device (Ma, page 3, column 1, lines 4-9).

It would have been obvious to one of ordinary skill in the art to use activation button to break electrical contact between the connector of the antenna module and the corresponding connector of the communication device because it provides the adaptability of connection for transmission signals in different modes (Ma, page 2, paragraph 28).

Art Unit: 2821

As per claim 13, Griffin discloses substantially the claim invention as noted above except for the activation control mechanism is an activation button, and pressing the activation button alternately makes and breaks electrical contact between the connector of the antenna module and the corresponding connector of the communication device so as to alternately electrically couple and electrically uncouple the external antenna and the communication device.

Ma discloses the activation control mechanism is an activation button, the connector is an RF switch, and pressing the activation button alternately makes and breaks electrical contact between the external connector and the RF switch so as to alternately electrically couple and electrically uncouple the external antenna and the communication device (Ma, page 3, column 1, lines 4-9).

It would have been obvious to one of ordinary skill in the art to use activation button to break electrical contact between the connector of the antenna module and the corresponding connector of the communication device because it provides the adaptability of connection for transmission signals in different modes (Ma, page 2, paragraph 28).

5. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claims 1-2, and 11-12 above, and further in view of RADA et al. (US 2004/0257284 A1).

As per claim 4, Griffin discloses substantially the claim invention as noted above except for the connector of the antenna module is a 50 ohm RF connector.

Art Unit: 2821

Rada discloses the connector of the antenna module is a 50 ohm RF connector (Rada, page 3, column 1, lines 19-20).

It would have been obvious to one of ordinary skill in the art to use a 50 ohm connector because it would provide improved reception and transmission performances of an optimum size related to a standard of the portable communications device (Rada, page 3, paragraph 39).

As per claim 14, Griffin discloses substantially the claim invention as noted above except for the connector of the antenna module is a 50 ohm RF connector.

Rada discloses the connector of the antenna module is a 50 ohm RF connector (Rada, page 3, column 1, lines 19-20).

It would have been obvious to one of ordinary skill in the art to use a 50 ohm connector because it would provide improved reception and transmission performances of an optimum size related to a standard of the portable communications device (Rada, page 3, paragraph 39),

6. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claims 1-2, and 11-12 above, and further in view of YANG et al. (USP 6,118,408).

As per claim 5, Griffin discloses substantially the claim invention as noted above except for a matching network coupled to the external antenna, the matching network matching the impedance of the external antenna to the impedance of the corresponding connector of the communication device.

Art Unit: 2821

Yang discloses the matching network coupled to the external antenna, a matching network matching the impedance of the external antenna to the impedance of the corresponding connector of the communication device (Yang, column 3, lines 62-67).

It would have been obvious to one of ordinary skill in the art to use the matching network coupled to the external antenna because it would improve the reception of the antenna through providing the optimum resonant impedance of the received signals (Yang, column 3, lines 65-66).

As per claim 15, Griffin discloses substantially the claim invention as noted above except for a matching network coupled to the external antenna, the matching network matching the impedance of the external antenna to the impedance of the corresponding connector of the communication device.

Yang discloses a matching network coupled to the external antenna, the matching network matching the impedance of the external antenna to the impedance of the RF switch (Yang, column 3, lines 62-67).

It would have been obvious to one of ordinary skill in the art to use the matching network coupled to the external antenna because it would improve the reception of the antenna through providing the optimum resonant impedance of the received signals (Yang, column 3, lines 65-66).

7. Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) in view of YANG et al. (USP

Art Unit: 2821

6,118,408) as applied to claims 5, and 15 above, and further in view of DENT et al. (USP 6,025,816).

As per claim 6, Griffin, and Yang disclose substantially the claim invention as noted above except for the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board.

Dent discloses the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board (Dent, column 6, lines 25-31).

It would have been obvious to one of ordinary skill in the art to use the matching network coupled to the external antenna because it would shape the antenna to a predetermined shape and pattern fit into the portable antenna (Dent, column 6, lines 31-35).

As per claim 16, Griffin, and Yang disclose substantially the claim invention as noted above except for the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board.

Griffin, and Yang disclose substantially the claim invention as noted above except for the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board.

Dent discloses the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board (Dent, column 6, lines 25-31).

It would have been obvious to one of ordinary skill in the art to use the matching network coupled to the external antenna because it would shape the

Art Unit: 2821

antenna to a predetermined shape and pattern fit into the portable antenna (Dent, column 6, lines 31-35).

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claim 1, and further in view of DENT et al. (USP 6,025,816).

Griffin discloses substantially the claim invention as noted above except for the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board.

Dent discloses the external antenna and the matching network are printed on one of a flex substrate and a thin printed circuit board (Dent, column 6, lines 25-31).

It would have been obvious to one of ordinary skill in the art to use the matching network coupled to the external antenna because it would shape the antenna to a predetermined shape and pattern fit into the portable antenna (Dent, column 6, lines 31-35).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claim 1, and further in view of KURZ et al. (USP 6,075,500).

Griffin discloses substantially the claim invention as noted above except for the external antenna is extendable/retractable antenna.

Art Unit: 2821

Kurz discloses the external antenna is extendable/retractable antenna (Kurz, column 4, lines 63-65).

It would have been obvious to one of ordinary skill in the art to use the extendable/retractable antenna to reduce the size of the communication device and still maintain the signal reception capability (Kurz, column 3, lines 11-26).

10. Claims 10 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claims 1, and 11 above, and further in view of MACDONALD, JR et al. (USP 6,430,400 B1).

As per claim 10, Griffin, discloses substantially the claim invention as noted above except for the at least one attachment feature includes a plurality of tongues that fit into corresponding grooves on the communication device to securely attach the antenna module to the communication device.

MacDonald discloses the at least one attachment feature includes a plurality of tongues that fit into corresponding grooves on the communication device to securely attach the antenna module to the communication device (column 5, lines 33-36).

It would have been obvious to one of ordinary skill in the art to use such claimed attachment feature because it provides the strong support for the main housing of the portable communication device such as cellular phone (McDonald, column 2, lines 39-46).

Art Unit: 2821

As per claim 17, Griffin, discloses substantially the claim invention as noted above except for the at least one attachment feature includes a plurality of tongues that fit into corresponding grooves on the communication device to securely attach the antenna module to the communication device.

MacDonald discloses the at least one attachment feature includes a plurality of tongues that fit into corresponding grooves on the communication device to securely attach the antenna module to the communication device (column 5, lines 33-36).

It would have been obvious to one of ordinary skill in the art to use such claimed attachment feature because it provides the strong support for the main housing of the portable communication device such as cellular phone (McDonald, column 2, lines 39-46).

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over GRIFFIN et al. (USP 5,898,908) as applied to claim 11 above, and further in view of WINEBRAND et al. (USP 6,791,497B1).

Griffin discloses substantially the claim invention as noted above except "the communication device is one of a two-way radio, a text messaging device, a portable communicating device having a wireless LAN card, and a global positioning system".

Winebrand discloses "the communication device is one of a two-way radio, a text messaging device, a portable communicating device having a wireless LAN card, and a global positioning system" which Griffin teaches in the

Art Unit: 2821

cellular phone 12 capable of performing text message displaying operation (Winebrand, column 11, lines 61-64).

It would have been obvious to one of ordinary skill in the art to use such communication system because it provides the various utilizations of a cellular phone in a portable wireless telecommunication device such as Griffin (the cellular phone 12) or Winebrand (column 11, lines 47-64).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ng et al. (USP 6,104,350) discloses an antenna assembly includes a straw having a substantially linear passageway and a helix base coil with an angled tapered guide.

Art Unit: 2821

Inquires

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Huedung Cao
Patent Examiner